

REMARKS

Claims 1 to 19 are currently pending in this application. Claims 1 to 3 and 6 to 17 have been rejected and claims 4, 5, 18 and 19 have been objected to. Reconsideration of the application is respectfully requested in view of the following remarks.

Rejection under 35 U.S.C. §102

The Examiner stated that claims 1, 8 to 11 and 13 are rejected under 35 U.S.C. 102(e), alleging that these claims are anticipated by United States Patent No. 6,814,470 to Rizkin *et al.*, hereinafter referred to as Rizkin.

The Examiner alleged that in reference to claim 1, Rizkin shows a system for manipulating illumination created by an array of light emitting devices, said system comprising: a plurality of light emitting devices spatially arranged in an array, said array separated into one or more sections, wherein each section of the array includes light emitting devices capable of creating illumination having a predetermined wavelength range [Figure 1: (14)]; a macroscopic optical system proximate to the plurality of light emitting devices, said macroscopic optical system enabling redirection of the illumination created by the plurality of light emitting devices, the macroscopic optical system providing a means for creating an off-axis distribution of the illumination [Figure 1: (16)]; and a microscopic optical system for diffusing the illumination created by the plurality of light emitting devices subsequent to the redirection by the macroscopic optical system, the microscopic optical system configured to retain the off-axis distribution of the illumination; thereby providing a desired level of blending of the predetermined wavelengths ranges [Figure 3: (28)].

Applicant respectfully disagrees with the Examiner asserting that Rizkin does not teach or suggest a “macroscopic optical system proximate to the plurality of light emitting devices, said macroscopic optical system enabling redirection of the illumination created by the plurality of light emitting devices, the macroscopic optical system providing a means for creating an off-axis distribution of the illumination”.

In support of this stance, Applicant respectfully directs the Examiner's attention to column 4, lines 40 to 45 of Rizkin, which describe element 16, which the Examiner has alleged as equivalent to the "macroscopic optical system" according to the instant invention. In particular, Rizkin defines element 16 as a "non-imaging optical element which collects ... light ... and compresses the collected light with high efficiency into a beam with symmetrical angular intensity distribution in both the horizontal and the vertical planes". With further reference to Rizkin, element 16 is further described at column 5, lines 1 to 5 which define that the "non-imaging optical element includes a combination of ... a refractive member ... and a total internal reflection member ..."

In contrast, and as expressly defined in claim 1, currently on file, the macroscopic optical system provides a means for creating an off-axis distribution of the illumination, which is clearly different from a symmetrical angular distribution as defined by Rizkin. Furthermore, and with reference to paragraph [0037] of the present application, the "macroscopic optical system provides a means for redirecting the illumination ... by a collection of ... reflective optics ... that can redirect light ... with a greater level of efficiency when compared to ... refractive optics", which again is in direct contrast to that as defined by Rizkin.

Applicant therefore asserts that nothing in Rizkin teaches or suggests a "macroscopic optical system" configured in a manner as expressly defined in claim 1, currently on file. Applicant therefore asserts that claim 1 is novel over Rizkin. As claims 8 to 11 and 13 are directly or indirectly dependent on claim 1, currently on file, these dependent claims are equally novel over Rizkin. Applicant therefore asserts that claims 1, 8 to 11 and 13 comply with 35 U.S.C. §102(e) and respectfully requests that the Examiner withdraw this objection.

Rejection under 35 U.S.C. §103

A. The Examiner stated that claims 2, 3, 6 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rizkin in view of United States Patent No. 6,361,191 to Simon, hereinafter referred to as Simon.

The Examiner alleged that regarding claim 2, Rizkin shows the claimed invention as cited above, but does not specifically teach that the macroscopic optical system includes at least one horizontal reflector. The Examiner further alleged that Simon teaches that the macroscopic optical system includes at least one horizontal reflector [Figure 1C: (34)] and alleged that it would have been obvious for one of ordinary skill in the art, at the time of the invention, to provide the macroscopic optical system of Rizkin with a horizontal reflector as taught by Simon for the purpose and advantage of changing the direction of the emitted light rays.

Based on the above arguments, Applicant asserts that independent claim 1, on which claims 2, 3, 6 and 7 directly or indirectly depend, is novel over Rizkin. Applicant further asserts that nothing in Rizkin teaches or suggests a “macroscopic optical system proximate to the plurality of light emitting devices, said macroscopic optical system enabling redirection of the illumination created by the plurality of light emitting devices, the macroscopic optical system providing a means for creating an off-axis distribution of the illumination” as expressly defined in independent claim 1, currently on file. Applicant therefore strongly asserts that a worker skilled in the art, having regard to Rizkin, would not have been led directly and without difficulty to the instant invention as defined in independent claim 1, currently on file.

As Simon does not cure the fundamental deficiencies identified in Rizkin, claims 2, 3, 6 and 7 currently on file are therefore inventive in light of Rizkin in view of Simon.

In further support of this stance, Applicant asserts that while both Rizkin and Simon relate to forms of lighting devices, Rizkin is directed towards a spot light for direct illumination whereas Simon teaches a wide angle lighting device primarily suitable for indirect illumination applications. Applicant asserts that a worker skilled in the art of lighting device design seeking to solve a problem regarding a spot light application, would not be motivated to search for a potential solution in the field of wide angle lighting. As would be readily apparent to a worker skilled in the art, these two fields of lighting design are significantly

different in part due to the dramatically different light output profiles generated by lighting devices in these two fields of lighting design.

Based on the above, Applicant therefore asserts that claims 2, 3, 6 and 7 currently on file comply with 35 U.S.C. 103(a) and respectfully requests this objection be withdrawn.

B. The Examiner stated that claims 12 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rizkin in view of United States Patent No. 6,260,981 to Fiene, hereinafter referred to as Fiene.

The Examiner alleged that regarding claim 12, Rizkin shows the claimed invention as cited above, but does not specifically teach a holographic diffuser having a linear or elliptical distribution, a mechanically produced plastic diffuser and a lenticular array. The Examiner further alleged that regarding claim 14, Rizkin shows the claimed invention as cited above, but does not specifically teach a holographic diffuser having a circular distribution, a frosted or sandblasted glass diffuser, a plastic diffuser and a lenslet array. The Examiner, with respect to both claims 12 and 14, alleged that Fiene teaches a holographic diffuser having a linear or elliptical distribution, a mechanically produced plastic diffuser and a lenticular array at column 4, line 66 to column 5, line 1. The Examiner further alleged that it would have been obvious for one of ordinary skill in the art, at the time of the invention to provide the microscopic optical system of Rizkin with a plastic diffuser as taught by Fiene for the purpose and advantage of enabling the reduction of the appearance of high brightness or illumination "hot spots" which can result from the illumination of an area using point light sources like light-emitting diodes.

Based on the above arguments, Applicant asserts that independent claim 1 on which claims 12 and 14 indirectly depend, is inventive in light of Rizkin. As Fiene does not cure the fundamental deficiencies identified in Rizkin, claims 12 and 14 currently on file are therefore inventive in light of Rizkin in view of Fiene. Applicant therefore asserts that claims 12 and 14 currently on file comply with 35 U.S.C. 103(a) and respectfully requests this objection be withdrawn.

C. The Examiner stated that claims 15 to 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rizkin.

The Examiner alleged that claims 15 and 16 are considered to be obvious methods of manipulating the illumination of claim 1 and as such are similarly rejected. Furthermore the Examiner alleged that claim 17 is considered to be the obvious method of manipulating the illumination of claims 1 and 10 and as such is similarly rejected.

Based on the arguments regarding claim 1 provided above, Applicant asserts that claim 15 currently on file is inventive in light of the Rizkin. Furthermore, Applicant asserts that Rizkin does not teach or suggest a "macroscopic optical system creating redirected illumination having an off-axis distribution" as expressly defined in independent claim 15, currently on file. Applicant asserts that a worker skilled in the art having regard to Rizkin, would not be led directly and without difficulty to the instant invention as expressly defined in claim 15, currently on file, and therefore asserts that claim 15 is inventive in light of Rizkin. As claims 16 and 17 are directly dependent on independent claim 15, these dependent claims are equally inventive in light of Rizkin. Applicant therefore respectfully requests that the Examiner withdraw this 35 U.S.C. 103(a) objection.

Based on the above, Applicant asserts that claims 1 to 19, currently on file, comply with 35 U.S.C. §102 and 35 U.S.C. §103. Applicant therefore asserts that claims 1 to 19 are in condition for allowance.

Information Disclosure Statement

Applicants respectfully request that an initialed copy of the PTO-1449 filed with the Information Disclosure Statement on August 11, 2005 be returned indicating that the Examiner has reviewed the references submitted therewith.

In re Application of:
Peter Kan
Application No.: 10/730,816
Filed: December 8, 2003
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Attorney Docket No.: MBM1360


Conclusion

In view of the above amendments and remarks, reconsideration and favorable action on all claims are respectfully requested. In the event any matters remain to be resolved, the Examiner is requested to contact the undersigned at the telephone number given below so that a prompt disposition of this application can be achieved.

No fee is deemed necessary in connection with the filing of this Response. However, the Commissioner is hereby authorized to charge any fees that may be associated with this communication, or credit any overpayment to Deposit Account No. 07-1896, referencing the above-identified attorney docket number. A copy of the Transmittal Sheet is enclosed.

Respectfully submitted,

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